

24. Crustacea from the Falkland Islands collected by
Mr. Rupert Vallentin, F.L.S.—Part II. By the Rev.
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(Plates I.–IX.)*

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The record of which this is a continuation was published in the Proceedings of the Zoological Society about fourteen years ago. In the interval Mr. Vallentin has continued his researches during more or less prolonged visits to the Falklands, with the result that very extensive additions have been made to the series of specimens left undescribed in my earlier report.

When Samuel Johnson, in 1771, published his entertaining but politically-minded history of the Falkland Islands, there was naturally no forecast in it that the restless "barren ocean" which breaks on the shores of those wind-swept outposts of civilization would eventually become a happy hunting-ground for students of marine zoology. Nevertheless, as explained in my former paper, the nineteenth century found those waters fruitful in interest. In the present century, while Mr. Vallentin has been waiting with friendliest patience for my further account of his unwearyed and still unexhausted researches, the rush to the Antarctic has incidentally brought the island fauna into renewed prominence. As the following discussion will show, it has engaged the attention of numerous eminent carcinologists, such as Chilton, Hansen, Ohlin, Ortmann, Thomas Scott, Tattersall, and Thiele. The present paper proposes one new generic name and five new species †; but Mr. Vallentin's collection has made possible a reconsideration of various forms already known by name, though very imperfectly known by nature. If some useful light has been thrown upon these obscurities, it may perhaps be welcomed as compensation for shortness in the list of novelties, at an epoch when the discovery and display of new species has been almost overwhelmingly rapid.

* For explanation of the Plates see p. 376.

† [The complete account of the five new species described in this communication appears here, but since the names and preliminary diagnoses were published in the "Abstract" No. 132, 1914, these species are distinguished by the names being underlined.—EDITOR.]

The former report dealt with *Peltarion spinosulus* White, *Halicarcinus planatus* (Fabricius)*, *Eurypodius latreillii* Guérin, *Paralomis granulatus* (Jacquinot), *Eupagurus comptus* (White), *Euphausia vallentini* Stebbing, *Thysanoessa macrurus* Sars, *Iais pubescens* (Dana), *Exospheroma gigas* (Leach), *Cassidina emarginatus* Guérin-Ménéville, *Trichoniscus magellanicus* (Dana). Of these the *Eupagurus* reappears under a different specific name, and the species of *Cassidina* has in the interval suffered a generic transfer. Of the specimens not included either in the past list or the present, some are well known. They are reserved, along with others of less obvious character, on the chance that detailed examination, should time and opportunity permit, may yield material for useful comment. In the meantime the following identifications are offered.

MALACOSTRACA.

Brachyura.

Tribe CYCLOMETOPA.

Fam. ACANTHO CYCLIDÆ.

Gen. *Acanthocyclus* M.-Edw. & Lucas.
Acanthocyclus albatrossis Rathbun.

Tribe CATOMETOPA.

Fam. GRAPSIDÆ.

Gen. *Planes* Bowdich.
Planes minutus (Linn.).

Macrura anomala.

Tribe PAGURIDEA.

Fam. PAGURIDÆ.

Gen. *Eupagurus* Brandt.
Eupagurus forceps (Milne-Edwards).

Tribe GALATHEIDEA.

Fam. GALATHEIDÆ.

Gen. *Munida* Leach.
Munida gregarius (Fabricius).
Munida subrugosus (White).

Macrura genuina.

Tribe CARIDEA.

Fam. HIPPOLYTIDÆ.

Gen. *Nauticaris* Bate.
Nauticaris magellanicus (A. Milne-Edwards).

Isopoda anomala or Apseudacea.

Fam. TANAIDÆ.

Gen. *Tanais* Andouin & M.-Edwards.
Tanais ohlini Stebbing.

Isopoda genuina.

Tribe FLABELLIFERA.

Fam. SPHEROMIDÆ.

Gen. *Exospheroma* Stebbing.
Exospheroma calcareus (Dana).

Gen. *Cassidinopsis* Hansen.

Cassidinopsis emarginatus (Guérin-Ménéville).

Vallentinia, gen. n.

Vallentinia darwini (Cunningham).

Tribe VALVIFERA.

Fam. ASTACILLIDÆ.

Gen. *Astacilla* Cordiner.
Astacilla falclandicus Ohlin.

Fam. IDOTEIDÆ.

Gen. *Edotia* Guérin-Ménéville.
Edotia tuberculatus Guérin-Ménéville.

Gen. *Macrochiridothea* Ohlin.

Macrochiridothea stebbingi Ohlin.

Tribe ASELOTA.

Fam. JANIRIDÆ.

Gen. *Notasellus* Pfeffer.
Notasellus sarsii Pfeffer.

* [The parentheses around the names of authors placed after scientific names in this paper are used in accordance with Article 23 of the International Rules of Nomenclature (Proc. 7th Int. Cong. Boston, 1907, p. 44 (1912)).—EDITOR.]

Amphipoda.

Tribe GAMMARIDÆA.

Fam. LYSIANASSIDÆ.

Gen. *Tryphosites* Sars.*Tryphosites chevreuxi* Stebbing.Gen. *Acontiostoma* Stebbing.*Acontiostoma marionis* Stebbing.

Fam. AMPELISCIDÆ.

Gen. *Ampelisca* Kröyer.*Ampelisca macrocephalus* Liljeborg.

Fam. PHOXOCEPHALIDÆ.

Gen. *Pontharpinia* Stebbing.*Pontharpinia rostratus* (Dana).

Fam. METOPIDÆ.

Gen. *Metopella* Sars.*Metopella oratus* (Stebbing).

Fam. ACANTHONOTOZOMATIDÆ.

Gen. *Iphimedia* H. Rathke.*Iphimedia nodosus* Dana.Gen. *Pariphimedia* Chevreux.*Pariphimedia normani* (Cunningham).

Fam. CEDICEROTIDÆ.

Gen. *Monoculopsis* Sars.*Monoculopsis vallentini* Stebbing.

Fam. CALLIOPIIDÆ.

Gen. *Halirages* Boeck.*Halirages huzleyanus* (Bate).

Fam. PONTOGENEIIDÆ.

Gen. *Borallia* Pfeffer.*Borallia regis* Stebbing.Gen. *Pontogeneia* Boeck.*Pontogeneia antarcticus* Chevreux.Gen. *Atylodes* Stebbing.*Atylodes magellanicus* (Stebbing).Gen. *Paramœra* Miers.*Paramœra austrinus* (Bate).

Fam. GAMMARIDÆ.

Gen. *Melita* Leach.*Melita inæquistylis* Dana.

Fam. DEXAMINIDÆ.

Gen. *Paradexamine* Stebbing.*Paradexamine nanus* Stebbing.

Fam. TALITRIDÆ.

Gen. *Talorchestia* Dana.*Talorchestia scutigerrulus* (Dana).Gen. *Hyalella* Smith.*Hyalella patagonicus* (Cunningham).

Fam. AORIDÆ.

Gen. *Lembos* Bate.*Lembos fuegiensis* (Dana).

Fam. PHOTIDÆ.

Gen. *Haplocheira* Haswell.*Haplocheira barbimanus* (Thomson).

Fam. AMPITHOIDÆ.

Gen. *Ampithoe* Leach.*Ampithoe brevipes* (Dana).

Fam. JASSIDÆ.

Gen. *Jassa* Leach.*Jassa falcatus* (Montagu).

Fam. COROPHIIDÆ.

Gen. *Corophium* Latreille.*Corophium cylindricus* (Say).

Fam. PODOCERIDÆ.

Gen. *Podocerus* Leach.*Podocerus brasiliensis* (Dana).

Tribe CYAMIDÆA.

Fam. CAPRELLIDÆ.

Gen. *Caprella* Lamarck.*Caprella penantis* Leach.

Tribe PHRONIMIDÆA.

Fam. HYPERIIDÆ.

Gen. *Hyperia* Latreille.*Hyperia gaudichaudii* Milne-Edwards.

LEPTOSTRACA.

Fam. NEBALIIDÆ.

Gen. *Nebalia* Leach*Nebalia bipes* (O. Fabricius)

THYROSTRACA

Fam. LEPADIDÆ.

Gen. *Lepas* Linn.*Lepas australis* Darwin.

Fam. BALANIDÆ.

Gen. *Elminius* Leach.*Elminius kingii* Gray.

MALACOSTRACA.

BRACHYURA.

Tribe CYCLOMETOPA.

Fam. ACANTHOCYCLIDÆ.

1852. *Cyclinea* Dana, U.S. Expl. Exp. vol. xiii. p. 294.
 1886. *Cyclinea* Miers, Rep. Voy. 'Challenger,' vol. xvii. pt. 49, p. 208.
 1898. *Acanthocyclidae* Rathbun, Pr. U.S. Mus. vol. xxi. p. 597.
 1899. *Acanthocyclineæ* Alcock, J. Asiat. Soc. Bengal, vol. lxviii. pt. 2, p. 96.

Alcock accepts Dana's legion as a subfamily of the Cancridæ, with the definition, "Carapace subcircular: front ending in a triangular point. Epistome short, sunken, completely concealed by the external maxillipeds which also completely cover the buccal orifice. Antennal flagella absent." The second character must be modified for the specimens referred to *A. albatrossis*, as in them the front is not triangular.

Gen. ACANTHOCYCLUS M.-Edwards & Lucas.

1844. *Acanthocyclus* Milne-Edwards & Lucas, D'Orbigny's Voy. Amér. Mérid. vol. vi. pt. 1, p. 30.
 1849. *Acanthocyclus* Nicolet, Gay's Hist. Chile, Zool. vol. iii. p. 176.
 1898. *Acanthocyclus* Rathbun, Pr. U.S. Mus. vol. xxi. p. 597 (with further synonymy).

ACANTHOCYCLUS ALBATROSSIS Rathbun.

1861. *Acanthocyclus gayi* Strahl, Monats. Ak. Wiss. Berlin, July 25, 1861 (1862), p. 713, pl.
 1877. ,, ,, Targioni-Tozzetti, R. Ist. Stud. super. Firenze, vol. i., Crost. della Magenta, p. 95, pl. 7. fig. 1, a-f.
 1898. *A. albatrossis* Rathbun, Pr. U.S. Mus. vol. xxi. p. 599.

Miss Rathbun distinguishes three species of the genus—the original *A. gayi* M.-Edwards & Lucas, 1843, renamed *A. villosus* by Strahl in 1861, Strahl's *A. gayi*, for which preoccupied name *A. albatrossis* is substituted, and *A. hassleri*, discovered by Dr. Faxon, but by his wish described and named by Miss Rathbun, who remarks that "the general appearance of the three species is much the same," but that the differences are constant. Of these eleven are tabulated, and, granting in each case the constancy of the combination, the specific distinction may be justified. Taken separately, many, even most if not all, of the differences relied on, have a rather untrustworthy appearance. Thus the front is entire in *gayi* and *hassleri*, faintly bilobed in *albatrossis*; the dactyli of ambulatory legs are long, little curved in the last, short, much curved in the other two; both carapace and legs are very hairy in *gayi*, less hairy in both the others, which again have the carapace tuberculate, whereas in *gayi* it is almost smooth;

the pleon of the male is narrow in *gayi*, wide in *albatrossis*, intermediate in *hassleri*. Without having specimens from various localities for comparison, it would be presumptuous for me to contest Miss Rathbun's judgment on the matter. I accept the name *albatrossis* for the Falkland Islands specimens, inasmuch as they have the front faintly bilobed, the dactyli long, with a curvature which may be relatively less in a long finger than in a short one, the carapace not very hairy (but at the same time generally smooth except in front), and the fourth joint of the third maxilliped with the outer margin diverging slightly from that of the preceding joint.

The carapace is stated to be in *A. gayi* "narrow; width 1.05 to 1.08 times length"; in *A. albatrossis* "width intermediate, 1.08 to 1.12 times length"; in *hassleri* "wide; width 1.16 times length." In measuring Falkland Islands specimens, I was certainly prejudiced in favour of the name *albatrossis* by finding the measurements respectively, width 1.12 times length of the first example and 1.08 of the second. These were females laden with eggs. Then a male gave width 1.15 times length, with the pleon decidedly narrow. The females laden with eggs vary greatly in size, one specimen measuring 13.5 mm. long, 15 mm. broad, another 23 mm. long, 26 mm. broad. The right cheliped appears to be usually, but not invariably the larger. The ambulatory legs have a dense fringe of hairs, but whether this leaves them less hairy than those of *A. gayi* is matter for comparison.

Locality. Roy Cove, Nov. 12, 1909, and June 16-24, 1910.

Tribe CATOMETOPA.

Fam. GRAPSIDÆ.

1900. *Grapside* Alcock, J. Asiat. Soc. Bengal, vol. lxi. pt. 2, p. 283.

Gen. PLANES Bowdich.

1825. *Planes* Bowdich, Excursions in Madeira and Porto Santo, p. 13, figs. 2a, 2b.

1910. *Planes* Stebbing, Ann. S. Afr. Mus. vol. vi. p. 320.

PLANES MINUTUS (Linn.).

1758. *Cancer minutus* Linn. Syst. Nat. ed. 10, vol. i. p. 625.

It is not surprising that this little wanderer has been taken by Mr. Vallentin at the Falkland Islands, its distribution being very extensive.

MACRURA ANOMALA.

Tribe PAGURIDEA.

Fam. PAGURIDÆ.

Gen. EUPAGURUS Brandt.

1851. *Eupagurus* Brandt, Middendorff's Sibirische Reise, Zool. pt. 1, p. 105.

EUPAGURUS FORCEPS (Milne-Edwards).

1836. *Pagurus forceps* Milne-Edwards, Ann. Sci. Nat., Zool. ser. 2, vol. vi. p. 272, pl. 13. fig. 5.
 1837. " " Milne-Edwards, Hist. Nat. Crust. vol. ii. p. 221.
 1847. *Pagurus comptus* White, Pr. Zool. Soc. London, vol. xv. p. 122.
 1858. *Eupagurus comptus* Stimpson, Pr. Ac. Philad. p. 237 (75).
 1871. *Pagurus forceps*? Cunningham, Tr. Linn. Soc. London, vol. xxvii. p. 495.
 1881. *Eupagurus comptus* Miers, Pr. Zool. Soc. London, p. 72.
 1900. " " Stebbing, Pr. Zool. Soc. London, p. 535.

In now identifying White's species with that described by Milne-Edwards eleven years earlier, I am bound to offer some grounds for my change of opinion. As years pass on, the form known as *E. comptus* is repeatedly collected in the southern parts of South America, and this form agrees well with the description and figure given by Milne-Edwards for his *E. forceps*, with the remarkable exception of the smaller cheliped. This he describes and figures as having the palm extremely short, the fingers slender, long and pointed, the movable finger almost filiform and straight, or even sinuous. There is something so unusual in this character of the smaller cheliped, that, as it does not appear ever to have been observed again, one may be excused for regarding it as an abnormality. It is not at all certain that Milne-Edwards had more than one specimen, though he gives an alternative for the form of the movable finger. He figures it with two slight curves but base and apex in line one with the other. That the species is liable to abnormality may be judged from the figure of the larger cheliped in Zool. 'Erebus' and 'Terror,' Crustacea, pl. 2. figs. 5, 5 a (1874), where the movable finger is evidently stunted. The variability of the species is further shown by the fact that Miers thought it necessary to name a var. *latimanus*, and Henderson a var. *jugosa*.

Mr. Vallentin obtained specimens from *Macrocyctis*.

Tribe GALATHEIDEA.

Fam. GALATHEIDÆ.

Gen. MUNIDA Leach.

1820. *Munida* Leach, Dict. Sci. Nat. vol. xviii. p. 52.
 1910. " Stebbing, Ann. S. Afr. Mus. vol. vi. p. 364.

MUNIDA GREGARIUS (Fabricius).

1793. *Galathea gregaria* Fabricius, Ent. Syst. vol. ii. p. 473.
 1891. *Munida gregaria* Mocquard, Miss. Cap Horn, Crustacés, p. 32, pl. 2. figs. 1, 1 a-c.

1902. *Munida gregaria* Benedict, Pr. U.S. Mus. vol. xxvi. p. 308, figs. 45, 46 (with synonymy).
 1911. " " Ortmann, Princeton Univ. Exp. Patagonia, p. 659.

Specimens of various sizes which I refer to this species were taken by Mr. Vallentin Jan. 28, 1899 (at the surface), Dec. 4, 1901, in Roy Cove, Feb. 1, 1910, and in Whales Bay, March 11 of the same year.

MUNIDA SUBRUGOSUS (White).

1847. *Galathea subrugosa* White, List of Crust. Brit. Mus. p. 66.
 1852-5. *Munida subrugosa* Dana, U.S. Expl. Exp. vol. xiii. p. 479, pl. 30. fig. 7 a-c.
 1891. " " Mocquard, Miss. Cap Horn, Crustacés, p. 36, pl. 2. figs. 2, 2 a-c.
 1909. " " Chilton, Subantarctic Is. of N. Zealand, p. 612 (with synonymy).
 1911. " " Ortmann, Princeton Univ. Exp. Patagonia, p. 659.

Dr. Chilton discusses the question of the specific identity of *M. subrugosus* and *M. gregarius*, in which he definitely inclines to believe, though still adopting the later name for the species. As to the generic name, *Grimothea* Leach, 1820, seems to have page precedence over *Munida*, but I forbear the dangerous task of arbitrating between the rival nymphs.

Mr. Vallentin took *M. subrugosus* at a depth of 4 fathoms in Whales Bay, 6 fathoms in Roy Cove, and Dec. 12, 1909, in "8 fathoms creek." All these specimens were adult, and all but one of rather large size.

MACRURA GENUINA.

Tribe CARIDEA.

Fam. HIPPOLYTIDÆ.

1888. *Hippolytidae* Bate, Rep. Voy. 'Challenger,' vol. xxiv. p. 576.

Gen. NAUTICARIS Bate.

1888. *Nauticaris* Bate, Rep. Voy. 'Challenger,' vol. xxiv. p. 577.

Having already noticed this genus in another (as yet unpublished) paper, I refrain from further discussion here.

NAUTICARIS MAGELLANICUS (A. Milne-Edwards).

1891. *Hippolyte magellanicus* A. Milne-Edwards, Miss. Cap Horn, Crustacés, p. 46, pl. 5. figs. 2, 2 a-i.

This species was taken by Mr. Vallentin from root of *Macro-*

cystis on Dec. 29, 1910, and at various other dates, by hand-net from bed of *Macrocystis* in Roy Cove, from a depth of between 3 and 4 fathoms, and in the same locality two specimens from a depth of 6 fathoms, on which he notes that one was banded red and chocolate in colour, and the other cream-coloured with chocolate markings.

ISOPODA ANOMALA

(or Apseudacea).

1902. *Isopoda anomala* Stebbing, S. African Crustacea, pt. 2, p. 48.
 1910. " " Stebbing, Ann. S. Afr. Mus. vol. vi. pp. 413, 576.

Fam. TANAIIDÆ.

1905. *Tanaidæ* H. Richardson, Bull. U.S. Mus. no. 54, p. 3.
 1905. " Stebbing, Herdman's Pearl Fish. Rep., no. 23, p. 2.
 1913. " Nierstrasz, Siboga-Expeditie, Mon. 32 a, p. 20.

The last of these references supplies an ample bibliography of the Apseudacea. In my own treatise above mentioned, on p. 4, I attribute to Sars the statement that in his genus *Heterotanaïs* the palp of the first maxilla is terminated by a single seta, a mistake for which I cannot account, as he distinctly states that there are two setæ. The distinction which he does in fact draw is that in *Tanaïs* the palp is biarticulate and tipped with several setæ, but in *Heterotanaïs* uniarticulate with the setæ only two. These minute features have been so seldom attended to in descriptions, that they are difficult to use for the settlement of genera. It might be convenient to withdraw from *Tanaïs* those species which have six separate pleon segments instead of only five. But even on this point authors are not always as definite as could be desired. The species about to be described belongs clearly to the group in which the pleon has six separate segments. As in *Tanaïs*, it has only three pairs of pleopods. Its form is robust like that of *T. robustus* Moore, but while that species has seven setæ on the palp of the first maxilla, this has only two. It shows points of agreement with the much smaller *T. seurati* Nobili, 1906-1907, but there the second joint of the second antennæ is much shorter than the first, here the reverse is the case.

The late Dr. Nobili in 1907 gives the family name as Tanaididæ. As, however, the genitive case of *Tanaïs*, in Latin, is the same as the nominative, it can scarcely be necessary to alter the accustomed form.

Gen. *TANAIS* Andouin & M.-Edwards.

1829. *Tanaïs* Andouin & Milne-Edwards, Précis d'Entomologie, vol. i. p. 46, pl. 29. fig. 1.

TANAIS OHLINI Stebbing. (Pl. I.)

Abstract P. Z. S. 1914, p. 30. (April 28.)

The segments of the pleon successively decrease in length to the sixth, which is longest of all, the curve of its hind margin slightly extended at the middle; the fourth and fifth segments much the shortest.

The eyes are irregularly ovoid, bluntly narrowed forward, the front margin of the head between them not clearly made out. First antennæ with third joint a little shorter than second, and less than one third as long as the first; flagellum consisting of a minute joint, broader than long, with fascicle of setæ. Second antennæ more slender and a little shorter than the first; first joint shorter than third, which is a little over half the fifth, fifth rather shorter than fourth, fourth than second; flagellum one little joint with fascicle of setæ. One of the mandibles has a small tooth-like accessory plate. Whether the palp of the first maxillæ is divided into two joints or not, could not be made out; one of its apical setæ is very much longer than the other. The maxillipeds have an unguis-like spine or fifth joint at the apex.

The large first gnathopod is of the ordinary type, the movable finger rather longer than the thumb, the apical points of the two curving one towards the other; inner margin of the thumb thin, not continuous with that of the apex, and flanked with setules. The slender second gnathopods have the antepenultimate joint not distally widened and without spines, the next joint very much longer, with needle-like finger half its length. The two following pairs of pereopods have the antepenultimate joint distally widened, only a little shorter than the following joint, and distally fringed with small spines, the hand and finger similar to those of the second gnathopod but shorter. The three succeeding pairs of pereopods have the second joint robust, the hand not longer than the wrist, slightly curved, the finger sickle-shaped, with four little spines or teeth on the concave margin near the apex. The marsupium on the penultimate segment of the pereon was crowded with rather large eggs. The pleopods are as usual strongly setose. The uropods are six-jointed, the largest joint constituting the peduncle, the five small joints of the single ramus being, except the first, plentifully furnished with setæ.

Length estimated at 4.5 mm., supposing the body to be flattened out.

Locality. Roy Cove at low spring tide.

The specific name is given in memory of the late Dr. Axel Ohlin, whose valuable researches in the Falkland Islands have only been in part reported on, death having interfered with the fulfilment of his plans.

ISOPODA GENUINA.

Tribe FLABELLIFERA.

Fam. SPHÆROMIDÆ.

1847. *Sphæromide* White, List of Crustacea in Brit. Mus.,
p. 102.
1910. „ Stebbing, Ann. S. Afr. Mus. vol. vi. p. 426.

Gen. EXOSPHEROMA Stebbing.

1900. *Ecosphæroma* Stebbing, Pr. Zool. Soc. London, p. 553.
1905. „ Hansen, Quart. J. Microsc. Sci. vol. xlix.
pp. 103, 118.
1910. „ Stebbing, Ann. S. Afr. Mus. vol. vi. p. 428.

This genus is placed by Hansen in the section Sphæromini of his group Sphærominæ hemibranchiata.

EXOSPHEROMA CALCAREUS (Dana). (Pl. II.)

- 1853-55. *Spheroma calcarea* Dana, U.S. Expl. Exp. vol. xiii.
p. 776, pl. 52, fig. 2 a-c.
1891. *Sphæroma* „ Dollfus, Miss. du Cap Horn, Crust.
p. 64, pl. 8 a. figs. 7, 7 a, 7 b.
1913. *Ecosphæroma coatsii* Tattersall, Tr. R. Soc. Edinb. vol. xlix.
p. 885, figs. 3, 4.

This is one of the species which are now in rapidly increasing number perplexing the systematist by their variability. A comparison of the figure supplied by Dana in 1855 with Dr. Tattersall's in 1913 would scarcely suggest a suspicion of specific identity. As it is, probably some allowance must be made for a little want of detail in Dana's sketch. But Dollfus, who had at command several specimens, explains that the granules and tubercles on the general surface and the double crest on the pleon sometimes disappear, leaving a smooth form such as Dana represents. Dr. Tattersall, describing and figuring an adult female and a young form, from Dr. Bruce's Scottish Antarctic Expedition, noted the comparative infrequency of tubercles in the young, with other differences, but he had no mature male to test for sexual difference. This deficiency I have been able to supply from Mr. Vallentin's collections. The specimen figured was 13 mm. long by 7 mm. broad. A female, 16 mm. long, containing a great number of eggs, was taken by Mr. Vallentin at low ebb of a spring tide in Stanley Harbour, Nov. 12, 1901. Other specimens, taken at Rapid Point, low water, Jan. 30, 1911, comprise a male 19 mm. long by 10 mm. broad at the sixth pereon segment. This capture corroborates the statement by Dollfus that he had observed males which were strongly granular and others almost smooth. Variation also affects the colour, at least to judge by preserved specimens,

some being a uniform brown, while others long retain signs of a brilliant marbling, such as that suggested by Dana of purple patches on a yellow ground.

Gen. CASSIDINOPSIS Hansen.

1905. *Cassidinopsis* Hansen, Quart. J. Microsc. Sci. vol. xlix. pp. 77, 82, 87, 90, 94, 106, 109, 128, 130.

Hansen places this genus in his group *Sphærominæ eubranchiatæ*, with the definition, "Head small, narrow in proportion to largest breadth of thorax. Basal joint of antennulæ without process from the distal posterior angle. End of abdomen feebly emarginate. Uropoda similar in both sexes; endopod laterally expanded, very much broader and a little longer than exopod. Both sexes similar, without processes; female with normal mouth-parts and the brood in internal pouches." He states that "the type is *Cassidina emarginata* (Guér.), which in many important points—structure of plp.⁴ and plp.⁵, shape of epistome, mandibles, fifth joint of maxillipeds, end of abdomen—differs strongly from the type for the genus *Cassidina*, *C. typa* (M.-Edw.)."

CASSIDINOPSIS EMARGINATUS (Guérin-Ménéville).

1843. *Cassidina emarginata* Guérin - Ménéville, Icon. Règne Animal, Crust., texte, p. 31.
 1900. " " Stebbing, Proc. Zool. Soc. London, p. 562 (with synonymy).
 1905. *Cassidinopsis* " Hansen, Quart. J. Microsc. Sci. vol. xlix. p. 87.
 1910. " " Hodgson, Nat. Antart. Exp. vol. v. p. 4.
 1911. *Cassidina* " Ortmann, Princeton Univ. Exp. Patagonia, vol. iii. p. 650.

The pigmented portion of the eyes has a conical shape, the narrow end foremost. Mr. Vallentin at various dates obtained specimens of different sizes, especially at Roy Cove, from fronds of *Macrocystis* between 2 and 4 fathoms.

VALLENTINIA, gen. nov.

A member of the *Sphærominæ eubranchiatæ*, near to *Paracerceis* Hansen, 1905, but distinguished by not having the basal joint of the first antennæ produced into an acute process, the mandibles of the female not coalesced with the head, the exopod of the uropods much shorter and narrower than the endopod, first gnathopod prehensile in the male.

VALLENTINIA DARWINII (Cunningham).

1871. *Cymodocea darwinii* R. O. Cunningham, Tr. Linn. Soc. London, vol. xxvii. p. 499, pl. 59. figs. 1, 1 a, 1 b.

- ✓ 1881. *Dynamene darwini* Miers, P. Z. S. Lond. p. 79.
 ✓ 1884. *Cymodocea darwini* Studer, Abh. K. Ak. Wiss. Berlin,
 1883, p. 18, pl. 2. figs. 6, 6 a, 6 b.
 L 1886. „ *darwini* Beddard, Rep. Voy. 'Challenger,'
 vol. xvii. pt. 48, p. 150.
 ✓ 1891. „ *darwini* Dollfus, Miss. Cap Horn, Crustacés,
 p. 65, pl. 8. figs. 8, 8 a, 8 b.
 L 1911. „ *darwini* Ortmann, Princeton Univ. Exp.
 Patagonia, p. 649.

Hansen in his treatise on the Sphaeromidae is evidently alluding to this species when he says (p. 125), "According to kind information from Dr. Calman, *D. Darwini* (Cunningham) has exopod of plp.³ divided by an articulation; the species must, in my opinion, be established as a new genus near *Paracerceis*." On this recommendation I have acted, naming the genus after Mr. Vallentin, to whose researches I owe the opportunity of examining the species. An interesting feature is the dilatation at the fifth pereon segment, well marked in Cunningham's figure, and noticed by Dollfus but scarcely appreciable in his coloured drawing of an example 19 mm. long. The specimen I have had under observation measured only 9 mm. The apical emargination of the telsonic segment is squared at the base. The epistome is not like the figure given by Dollfus; it widens much more abruptly backwards, and then narrows before forming the divergent arms which clasp the upper lip. The mouth-organs are much as in *Cymodoce*. The first antennæ have a very large first joint followed by a short one, to which succeeds one that is long and slender. The first gnathopods are rather robust, but as Dollfus notices, the large tooth produced from the base of the hand is no doubt a male character, giving to that sex in this genus a pair of prehensile hands.

In his eubranchiate group Hansen makes an informal separation between the genera which have and those which have not an articulation of the exopod in the third pleopod. In the present species the articulation is very conspicuous, through the strong incurving of the inner margin of each joint at the junction; the exopod itself is unusually narrow. The fourth and fifth pleopods, in accord with their systematic position, have both rami strongly pleated. There are five of the denticulate bosses on the end of the exopod in the fifth pair; the exopod of the fourth pair is clearly two-jointed.

Locality. Stanley Harbour, low water.

Tribe VALVIFERA.

Fam. ASTACILLIDÆ.

1897. *Astacillidæ* Sars, Crustacea of Norway, vol. ii. p. 88.
 1901. „ Ohlin, Svenska Exp. Magellanslând. vol. ii.
 p. 265.

Gen. ASTACILLA Cordiner.

1795. *Astacilla* Cordiner, Remarkable Rivers, and Nat. Hist.,
Section "Astacillæ."
1905. „ Stebbing, Herdman's Pearl Fish. Rep., Suppl.
Rep. 23, p. 46.

ASTACILLA FALCLANDICUS Ohlin.

1901. *Astacilla falclandica* Ohlin, Svenska Exp. Magellanslând.
vol. ii. p. 266, pl. 20. fig. 1.

I have very little doubt that Ohlin's *Astacilla magellanicus* is a synonym of this species. Mr. Vallentin's specimens were obtained in the Falklands from hulks at low water. The first antennæ have a few filaments in an apical group. The first pereon segment is completely coalesced with the head, and the rather compact little first gnathopods are so attached that they can scarcely have any function but that of mouth-organs. The slender second gnathopods and first two pairs of pereopods have the natatory setæ not at all densely crowded; they have a minute hooked spine as representative of the seventh joint. The hind pereopods are robustly uncinatæ. The length of the body is between 4 and 5 mm.

Fam. IDOTEIDÆ.

1852. *Idoteidæ* Dana, Amer. Journ. Sci. ser. 2, vol. xiv. p. 300.
1911. „ Tattersall, Nordisches Plankton, vol. iii. p. 216.

Gen. EDOTIA Guérin-Ménéville.

1843. *Edotia* Guérin-Ménéville, Icon. Règne Animal, p. 34.
1901. *Edotia* Ohlin, Svenska Exp. Magellanslând. vol. ii. p. 292.

EDOTIA TUBERCULATUS Guérin-Ménéville.

1843. *Edotia tuberculata* Guérin-Ménéville, Icon. Règne Animal,
p. 34.
1901. „ „ Ohlin, Svenska Exp. Magellanslând.
vol. ii. p. 292, pl. 23. figs. 10, 10A-C, etc.

The synonymy, characters, and distribution of this species are well discussed by the late Dr. Axel Ohlin. More recently it is noted by Ortmann and Hodgson. Mr. Vallentin took specimens in Roy Cove, from a depth of between 3 and 4 fathoms.

Gen. MACROCHIRIDOTHEA Ohlin.

1901. *Macrochiridothea* Ohlin, Svenska Exp. Magellanslând.
vol. ii. pp. 282, 286.

The great development of the first gnathopods in both sexes

is referred to in the name of the genus, which also alludes to its alliance in various other respects with *Chiridotea* Harger. As in that genus, the so-called palp of the maxillipeds is three-jointed, but alike in *C. cæcus* (Say) and *C. tuftsii* (Stimpson) the first joint of the palp is much the shortest, whereas in the two species of Ohlin's genus that proportion belongs to the third joint.

MACROCHIRIDOTHEA STEBBINGI Ohlin.

1901. *Macrochiridotea stebbingi* Ohlin, Svenska Exp. Magelansländ. vol. ii. p. 289, fig. 9.

The species has been amply described and figured by Dr. Ohlin from a female specimen, 7 mm. long. Mr. Vallentin obtained a specimen 15 mm. in length, another 14 mm., both 6·5 in breadth, and a third of nearly the same length as the second. As these all happened to be females, there was no opportunity of comparing the male appendix with that of Ohlin's other species, *M. michaelsonii*, of which he gives the measurements as "length of males 11·5 mm.; breadth 5·5 mm. Female smaller."

Locality. Port Harriet, low-water mark spring-tide.

Tribe ASELOTÆ.

Fam. JANIRIDÆ.

1897. *Ianiridæ* Sars, Crustacea of Norway, vol. ii. p. 98.

1901. *Janiridæ* Richardson, Pr. U.S. Mus. vol. xxiii. pp. 497, 550, 553.

1905. „ Stebbing, Herdman's Pearl Fish. Rep., Suppl. Rep. 23, p. 48.

Gen. NOTASELLUS Pfeffer.

1887. *Notasellus* Pfeffer, Jahrb. wiss. Anstalten Hamburg, vol. iv. p. 85.

1902. „ Hodgson, Nat. Hist. Southern Cross Exp. p. 251.

1905. „ Stebbing, Herdman's Pearl Fish. Rep., Suppl. Rep. 23, p. 53.

1910. „ Richardson, Pr. U.S. Mus. vol. xxxvii. p. 649.

1913. „ Richardson, Deuxième Exp. Antarct. française, Isop. p. 17.

NOTASELLUS SARSII Pfeffer.

1887. *Notasellus sarsii* Pfeffer, Jahrb. wiss. Anstalten Hamburg, vol. iv. p. 85, pl. 7. figs. 5-28.

This species has been very fully described and illustrated by Dr. Pfeffer. Specimens were taken by Mr. Vallentin at Rapid Point, low water, Jan. 30, 1911.

AMPHIPODA.

Tribe GAMMARIDEA.

Fam. LYSIANASSIDÆ.

1874. *Lysianassidæ* Buchholz, Zweite D. Nordpolarf. vol. ii.
p. 299.
1913. „ Chevreux, Deuxième Exp. Antaret. française,
p. 87.

Gen. TRYPHOSITES Sars.

1891. *Tryphosites* Sars, Crust. Norway, vol. i. p. 81.
1906. „ Stebbing, Das Tierreich, vol. xxi. p. 77.
1911. „ Sexton, Ann. Nat. Hist. ser. 8, vol. vii. p. 510.
1912. „ Chilton, Tr. Roy. Soc. Edinb. vol. xlviii. pt. 2,
p. 469.

To receive the new species here referred to this genus, its definition must be a little modified, by withdrawal of the statement that the postero-lateral angles of the third pleon segment are acutely upturned, nor does the shape of the hand in the second gnathopod precisely conform with that in the type species. Also the inner ramus of the second uropod is not constricted.

TRYPHOSITES CHEVREUXI Stebbing. (Pl. III.)

Abstract P. Z. S. 1914, p. 30. (April 28.)

The third pleon segment, instead of having the postero-lateral corners upturned with a smooth concave margin above, has the lower half of the postero-lateral margin convex and cut into a serration of nine little teeth. Thus the species is sharply distinguished both from *T. longipes* (Bate & Westwood) and from *Hoplonyx stebbingi* Walker, 1903, which Chilton in 1912 transferred to *Tryphosites*, with the remark, among others, that it "appears to be very close to *T. longipes* of northern seas, differing chiefly in having the peræopoda shorter and stouter and the eyes indistinct." Walker lays some stress upon "the absence of a depression" dorsally in the fourth pleon segment. Such a depression is sometimes masked by the telescoping of the segment. In the new species the depression is very marked.

Eyes obscure or absent. Both pairs of antennæ strongly resembling those of *T. longipes*. Accessory flagellum in first pair of the male 7-jointed, principal with 16 joints, some of which carry small calceoli. Flagellum of second pair not so long as the body, with 32 joints, several of the alternate ones carrying calceoli, decreasing in size on the distal portion. Mouth-organs in close agreement with those of *T. longipes*.

The gnathopods differ from those of the two earlier species in scarcely anything but the hand of the second pair, which is not

quite half as long as the wrist. The peræopods are distinguished chiefly by the strong denticulation of the hind margin in the second joint of the fifth pair; in this and the two preceding pairs the terminal joints are not so long and slender as in *T. longipes*; the fourth joint is rather narrower in the fifth pair than in the two preceding pairs. The branchial vesicles show various proximal folds.

The telson is divided nearly to the base, each division having three submarginal spines, and three apical, of which the central is the longest, with a setule between it and the very small outer spine.

Length of male 9 mm. A second specimen, with flagellum of second antennæ broken, the remainder of seven joints carrying no calceoli and suggestive of a short termination, is probably the female. It measures 6 mm., and like the male is very narrow, with the curved process of the epistome conspicuous.

Locality. Roy Cove, from the depth of 8 fathoms. Specimens from Whales Bay, observed after the above description was written, show the second antennæ a little longer than the first.

The species is named in honour of my friend, M. Edouard Chevreux, a brilliant student of the Amphipoda.

Gen. ACONTIOSTOMA Stebbing.

1888. *Acontiosstoma* Stebbing, Rep. Voy. 'Challenger,' vol. xxix. p. 709.

1906. „ Stebbing, Das Tierreich, vol. xxi. pp. 9, 15.

ACONTIOSTOMA MARIONIS Stebbing.

1888. *Acontiosstoma marionis* Stebbing, Rep. Voy. 'Challenger,' vol. xxix. p. 709, pl. 30.

1893. „ „ Della Valle, F. & Fl. Neapel, vol. xx. p. 786.

1906. „ „ Stebbing, Das Tierreich, vol. xxi. p. 15, text-fig. 4.

1912. „ „ Chilton, Tr. R. Soc. Edinb. vol. xlviii. p. 462.

Mr. Vallentin obtained a specimen from roots of *Macrocystis* on Jan. 14, 1902, and another, 7 mm. long, much more recently at Rapid Point, low water of spring tide. The finding of these specimens in the Falkland Islands increases the probability, with which Professor Della Valle naturally agrees, that my *Acontiosstoma magellanicus* is merely a young form of *A. marionis*.

Fam. AMPELISCIDÆ.

1882. *Ampeliscidæ* Sars, Forh. Selsk. Christian. no. 18, p. 29.

1906. „ Stebbing, Das Tierreich, vol. xxi. pp. 6, 97, 721.

Gen. AMPELISCA Kröyer.

1842. *Ampelisca* Kröyer, Naturh. Tidsskr. vol. iv. p. 154.
 1906. „ Stebbing, Das Tierreich, vol. xxi. pp. 98, 721.

AMPELISCA MACROCEPHALUS Liljeborg.

1852. *Ampelisca macrocephala* Liljeborg, Öfv. Ak. Förh. vol. ix.
 p. 7.
 1903. „ „ Walker, J. Linn. Soc. London,
 vol. xxix. p. 53, pl. 9. figs. 58-61.
 1905. „ „ Holmes, Bull. U.S. Bureau Fish.
 vol. xxiv. p. 479, text-figs.
 1905. „ „ Paulmier, Bull. New York Mus.,
 Bull. 91, Zool. 12, p. 158, fig. 26.
 1906. „ „ Stebbing, Das Tierreich, vol. xxi.
 pp. 99, 101.
 1907. „ „ Walker, Nat. Antarct. Exp. vol. iii.
 p. 18.

It may seem extraordinary that this northern and even arctic species should reappear, as Mr. A. O. Walker has determined, in antarctic waters. It has been taken by Mr. Vallentin at low water at spring tides on a sandy beach in Shallow Bay, Falkland Islands, Jan. 15, 1911. The bright red pigment of the eyes lasts long in preservative fluid.

Fam. PHOXOCEPHALIDÆ.

1891. *Phoxocephalidae* Sars, Crustacea of Norway, vol. i. p. 142.
 1906. „ Stebbing, Das Tierreich, vol. xxi. pp. 6,
 133, 723.

Gen. PONTHARPINIA Stebbing.

1899. *Pontharpinia* Stebbing, Tr. Linn. Soc. London, ser. 2,
 vol. vii. p. 32.
 1906. „ Stebbing, Das Tierreich, vol. xxi. p. 146.
 1913. „ Chevreux, Deuxième Exp. Antarct. fran-
 çaise, Amph. p. 101.

PONTHARPINIA ROSTRATUS (Dana).

- 1853-55. *Urothoe rostratus* Dana, U.S. Expl. Exp. vol. xiii. p. 921,
 pl. 62. fig. 5 a-p.
 1906. *Pontharpinia rostrata* Stebbing, Das Tierreich, vol. xxi.
 p. 146.

Chevreux's *Pontharpinia uncinatus* is distinguished by the shorter wrist of the second gnathopods and the upturned posterolateral angles of the third pleon segment, but in many respects, as the eminent French author observes, is a near neighbour of the present species.

Locality. Falkland Islands, low water of spring tide.

Fam. METOPIDÆ.

1899. *Metopidæ* Stebbing, Ann. Nat. Hist. ser. 7, vol. iv. p. 210.
 1906. „ Stebbing, Das Tierreich, vol. xxi. pp. 7, 171, 724.

Gen. METOPELLA, Sars.

1892. *Metopella* Sars, Crustacea of Norway, vol. i. p. 274.

METOPELLA OVATUS (Stebbing).

1888. *Metopa ovata* Stebbing, Rep. Voy. 'Challenger,' vol. xxix.
 p. 764, pl. 44.
 1893. *Metopoides ovatus* Della Valle, F. & Fl. Neapel, pp. 645, 907,
 938.
 1906. *Metopella ovata* Stebbing, Das Tierreich, vol. xxi. p. 183,
 figs. 47, 48.
 1912. „ „ Chilton, Trans. R. Soc. Edinb. vol. xlviii.
 p. 481.

A female specimen, containing five large eggs, measured in its folded posture less than 1 mm. in length.

Locality. Stanley Harbour, on seaweed, at low water of spring tide.

Fam. ACANTHONOTOZOMATIDÆ.

1906. *Acanthonotozomatidæ* Stebbing, Das Tierreich, vol. xxi.
 pp. 7, 210.

Gen. IPHIMEDIA H. Rathke.

1843. *Iphimedia* Rathke, N. Acta Ac. Leop. vol. xx. p. 85.
 1906. „ Stebbing, Das Tierreich, vol. xxi. p. 214.
 1907. „ Walker, Nat. Antarct. Exp. vol. iii. p. 37.
 1910. „ Stebbing, Mem. Australian Mus. vol. iv. pp. 584,
 637.

IPHIMEDIA NODOSUS Dana.

1852. *Iphimedia nodosa* Dana, P. Amer. Ac. vol. ii. p. 217.
 1906. „ „ Stebbing, Das Tierreich, vol. xxi.
 pp. 214, 216.

The identification and fuller description of Dana's species supplied in 1906 were made possible by the specimens which Mr. Vallentin obtained at low water of a spring tide in Stanley Harbour. More recently, Dec. 29, 1910, he obtained a specimen from the root of *Macrocystis*.

Gen. PARIPHIMEDIA Chevreux.

1906. *Pariphimedia* Chevreux, Bull. Soc. Zool. France, vol. xxxi.
 no. 2, p. 39.
 1906. „ Chevreux, Exp. Antarct. française, Amphip.
 p. 38.

1910. *Pariphimedia* Stebbing, Mem. Australian Mus. vol. iv.
pt. 2, p. 584.
1912. „ Chilton, Tr. Roy. Soc. Edinb. vol. xlviii.
p. 487.

H. Rathke's *Iphimedia* and G. M. Thomson's *Panoploea*, according to Chevreux, are distinguished from this genus chiefly by the following characters:—the cutting-edge of the mandibles not denticulate, the principal lobes of the lower lip emarginate on the inner edge, the palp of the first maxillæ two-jointed, the inner lobe of the second maxillæ carrying a single series of setæ, the second gnathopod not completely chelate, and the telson apically emarginate.

It would, I think, be inconvenient to press the first of these characters as essential to either of the genera mentioned; but both are rather sharply separated from *Pariphimedia* by the two-jointed palp of the first maxilla, in strong contrast with the feeble single-jointed structure in Chevreux's genus, which makes an approach to that found in *Odius* Lilljeborg.

In adding a second species to the genus, I feel fairly sure that it is identical with the scantily-described *Iphimedia normani* Cunningham, which has so long remained obscure. But the addition tends to weaken the original definition, inasmuch as the telson has a neat little convex emargination which helps to distinguish it from *P. integricauda*, in which, as the specific name declares, the telson is unincised. By a curious contrariety the upper lip, which is there slightly emarginate, is here simply convex. The mandibles in the two species essentially agree, the trunk tapering to a fine point, the distal part of the margin minutely denticulate, the molar represented by a projection with no triturating surface, the palp well developed, its second joint much the longest, the third curved, setose. Neither mandible in *P. normani* has a secondary plate, so far confirming the suggestion which I have earlier made, that the same is the case in *P. integricauda*. While it may be said that the distal lobes of the lower lip are in both species undivided, it will be seen that in *P. normani* there is a marked tendency towards apical division.

PARIPHIMEDIA NORMANI (Cunningham). (Pls. IV. & V.)

1871. *Iphimedia normani* Cunningham, Tr. Linn. Soc. London,
vol. xxvii. p. 498, pl. 59. fig. 7.
1906. „ „ Stebbing, Das Tierreich, vol. xxi. p. 217.

This species, by the notable features of its mouth-organs and gnathopods, clearly belongs to the family Acanthonotozomatidæ. But of spine-like processes on the back, which so many members of that family exhibit, it is singularly devoid. Only the third segment of the pleon makes a show of relationship in this respect by an upturned postero-lateral angle and high up on the side a still stronger upturned tooth. The two preceding segments have the postero-lateral angle produced into acute points, and

the sides angled. The side-plates of the peræon have no acute points except that which forms the boundary of the emargination in the large fourth pair. The fifth pair are bilobed and not produced backwards as in the congeneric species.

The eyes have numerous small components. The flagellum of the first antennæ shows fifteen joints, that of the second twenty-nine, in each case the first joint being much the longest, the second flagellum about a fifth of its length longer than the first. The mandibles and maxillæ are in close agreement with those described by Chevreux, but the maxillipeds differ by the greater length of both the inner and the outer plates, the latter being nearly as long as the palp; a faint transverse line gives them the appearance of being jointed.

The gnathopods, peræopods, and uropods also differ but little from those of the companion species, but the second joint of the first gnathopod is here sinuous, not straight, and the second joint of the third peræopod is here broader, with the hind margin convex.

The specimen, a female with a few large ova, measured about 9 mm., in near agreement with Dr. Cunningham's specimen, 4 lines long, but much less than the specimen of *P. integricauda*, described by Chevreux as 15 mm. in length. The colour as preserved was marbled red.

Locality. Whales Bay, Falkland Islands, May 17, 1910. Cunningham states that his specimen was dredged off Elizabeth Island in February 1867.

Panoploea joubini Chevreux, 1912, strikingly distinguished from the present species by numerous spiniform processes, curiously resembles it in the unemarginate upper lip, long plates of the maxillipeds, emarginate telson, and in the gnathopods.

Fam. *ÆDICEROTIDÆ*.

1906. *Ædicerotidæ* Stebbing, Das Tierreich, vol. xxi. p. 235.

Gen. *MONOCULOPSIS* Sars.

1892. *Monoculopsis* Sars, Crust. Norway, vol. i. p. 310.

In many respects this genus agrees with *Monoculodes* Stimpson. Distinguishing features are the considerable size of the fourth and fifth side-plates, the relatively greater length of the third joint of the peduncle in the first antennæ, and the somewhat tapering form of the long sixth joint in the second gnathopods.

MONOCULOPSIS VALLENTINI Stebbing. (Pls. VI. & VII.)

Abstract P. Z. S. 1914, p. 30. (April 28.)

From *Monoculopsis longicornis* (Boeck), the type of the genus, the present species is distinguished chiefly by characters of the gnathopods. In the first pair the process of the wrist or fifth

joint, though well pronounced, is very slender and does not reach the palm. In the second pair the process of the same joint, instead of being very long and extending beyond the inner corner of the palm, is very short and quite distant from the palm. Moreover, the first antenna in the female is decidedly shorter instead of a little longer than the second, and it has a flagellum as long as the peduncle instead of one only a little longer than the peduncle's third joint. Here, it may be thought, are materials for establishing a new genus, but that may wait, since the discovery of intermediate forms might easily make it unnecessary.

The organ of vision on the short rostrum is white in the preserved specimens. The first antennæ have the first joint as long as the second and much stouter, the third joint little more than two thirds as long as the second, the flagellum of sixteen joints. In the second antennæ the last joint of the peduncle is longer than the stouter penultimate; the gland-cone of the second joint is blunt-ended; the flagellum is composed of twenty-two joints, but fewer in a smaller specimen.

The trunk of the mandibles has the cutting-edge not strongly dentate, the molar not very prominent, the third joint of the palp much shorter than the setose second, each curved but in opposite directions. The spine-row consists of five spines. The inner plates of the lower lip are distinctly developed. The inner plate of the first maxillæ is tipped with three small setæ; the elongate second joint of the palp has several setæ along the outer margin and six spines on the distal part of the inner. The maxillipeds are like those in the type species.

The oblique palm is longer than the hind margin of the hand in the first gnathopod, but considerably shorter than it in the second. The first and second peræopods are alike. The third and fourth differ from them in the greater expansion of the second joint. The fourth differs from the third by the greater size of its second, fifth, and sixth joints. In all four pairs the sixth joint is notable for the dense clothing of setæ along the back or convex margin of the sixth joint. The small finger is unarmed except for a microscopic unguis. The long fifth peræopods do not appear to be distinctive.

The pleopods have two minute coupling-hooks on the inner distal corner of the peduncle, and five coupling-spines on the first joint of the inner ramus, which is very slightly shorter than the outer. The uropods have their long peduncles successively shorter, in each case longer than their respective rami, which are also long, in the first and second pairs the inner ramus slightly longer than the outer, the spine armature throughout rather slight. The telson scarcely longer than broad, with a minute spinule at each rounded corner of the truncate distal margin.

The female specimen measured 9 mm. across the curve from the rostrum to the end of the third pleon segment, so that if straightened out the full length to the end of the telson might

have been 12 mm., but it is difficult to say what allowance should be made for the telescoping of the segments.

Locality. Top of Roy Cove, low water, Aug. 1, 1910.

Fam. CALLIOPIIDÆ.

1893. *Calliopiidae* Sars, Crust. Norway, vol. i. p. 431.

1906. „ Stebbing, Das Tierreich, vol. xxi. pp. 285, 727.

Gen. HALIRAGES Boeck.

1871. *Halirages* Boeck. Forh. Selsk. Christian. 1870, p. 194.

1906. „ Stebbing, Das Tierreich, vol. xxi. pp. 285, 290.

HALIRAGES HUXLEYANUS (Bate).

1862. *Atylus huxleyanus* Bate, Catal. Amph. Brit. Mus. p. 135, pl. 25. fig. 4.

1888. *Halirages huxleyanus* Stebbing, Rep. Voy. 'Challenger,' vol. xxix. p. 902, pl. 73.

1906. „ „ Stebbing, Das Tierreich, vol. xxi. p. 291.

Mr. Vallentin obtained this species from a nest on *Macrocystis*, Dec. 24, 1898. He also records it from Stanley Harbour, taken by tow-net; he took it from a rock-pool, June 10, 1910, having previously on March 11 of that year found the sea teeming with it.

Fam. PONTOGENEIIDÆ.

1906. *Pontogeneiidae* Stebbing, Das Tierreich, vol. xxi. p. 356.

1913. „ Chevreux, Deuxième Exp. Antarct. française, Amph. p. 167.

Gen. BOVALLIA Pfeffer.

1888. *Bovallia* Pfeffer, Jahrb. Hamburg. Anst. vol. v. p. 95.

1906. „ Stebbing, Das Tierreich, vol. xxi. p. 357.

1909. „ Chilton, Subantarct. Is. of N. Zealand, p. 622.

1912. „ Chilton, Tr. R. Soc. Edinb. vol. xlviii. p. 494.

1913. „ Chevreux, Deuxième Exp. Antarct. française, Amph. p. 168.

In Chilton's paper, 1912, Walker's *Eusiroides orchomenipes*, 1904, is accidentally cited as *E. orchomenopsis*.

BOVALLIA REGIS Stebbing. (Pl. VIII.)

Abstract P. Z. S. 1914, p. 30. (April 28.)

In the medio-dorsal structure the new species strongly resembles *B. giganteus* Pfeffer, and *B. walkeri* (Stebbing), first described by Walker as *Atylus antarcticus*. But it has a character not attributed to these, in that the lower borders of all the

pereon segments are extended laterally outwards over the side-plates. The latter agree with those figured by Walker and Chevreux for *B. walkeri*. The subacute medio-dorsal extension of the last pereon segment and the first two pleon segments is very pronounced, as is that of the third pleon segment, but this last is distinguished from the others by its obtuseness. The second and third pleon segments have the postero-lateral angles minutely acute. The telson has an extremely short division between the subacute apical lobes, which reach a little beyond the peduncle of the third uropod. In both specimens examined the lobes were slightly unsymmetrical.

The eyes are round, not crescentic as in *B. giganteus*, nor large and reniform as in *B. walkeri*. The first antennæ agree with the former only, in having no accessory flagellum; the principal flagellum showed short filaments on the first, second, fourth, and seventh articulations, and so on at each successive third to the twenty-second or twenty-eighth, the total in one specimen being 30, in another 33. The longer second antennæ show a flagellum of 46 joints, the proximal group very short, those towards the end rather long, the whole flagellum longer by half than that of the first pair. Each mandible has an accessory plate, that on the left forming five little teeth, that on the right having only two, which are longer and apical instead of serial; the third joint of the palp is shorter than the second. The lower lip appears to be without inner lobes. The first maxillæ have four plumose setæ on the apical margin of the rather broad inner plate second joint of the palp long.

The first and second gnathopods are extremely similar in the female, the hand oval, narrowest at the finger-hinge, the palm making a continuous curve with the hind margin, its limit defined by spines which the tip of the curved finger reaches; hand and finger slightly larger in the first gnathopod than in the second. The fifth pereopod has the hind margin of the second joint sinuous, the greatest width of the joint being near its base.

The first uropods have a peduncle much longer than the inner ramus, which is longer than the outer, but shorter than the inner ramus of the second pair, that ramus exceeding its peduncle in length. The third uropods have the rami subequal, much longer than their peduncle and somewhat longer than the telson.

Length of one specimen 12 mm., that of the specimen figured 9 mm. in its bent posture, probably about 12 mm. if extended; it contained numerous eggs.

Locality. Low spring tide at Roy Cove, the specific name alluding to that of the place so diligently examined by Mr. Valentin.

Gen. PONTOGENEIA Boeck.

1871. *Pontogeneia* Boeck, Forh. Selsk. Christian. 1870, p. 193.

1906. ,, Stebbing, Das Tierreich, vol. xxi. p. 359.

PONTOGENEIA ANTARCTICUS Chevreux.

1906. *Pontogeneia antarctica* Chevreux, Bull. Soc. Zool. France, vol. xx. p. 79, text-fig. 2 A-K.
 1906. " " Chevreux, Exp. Antarct. française, Amphip. p. 69, text-figs. 40, 41 A-K.
 1909. " " Chilton, Subantarct. Is. of N. Zealand, Art. 26, p. 624.
 1912. " " Chilton, Tr. R. Soc. Edinb. vol. xlviii. p. 796.
 1913. " " Chevreux, Deuxième Exp. française, Amphip. p. 177, text-fig. 59 A-C.

This species by its smooth, compressed, and not dentate body is strikingly distinguished from *Bovallia regis*, which in many other points it nearly resembles.

The specimen which I am here assigning to Chevreux's species agrees admirably in most respects with the French author's figures and description, especially with the figures which he has recently given of the male gnathopods. Of these, the first are larger than the second, the hands in both pairs oval, with the palm scarcely distinguished from the hind margin except by the extent of the respective fingers. The unarmed telson, with short division between the rounded apical lobes, is also in precise agreement. The inner plate, however, of the first maxillæ has only three terminal setæ, instead of the four shown in Chevreux's figure and five mentioned in his text. Also the third uropods have few spines instead of many, and the flagellum of the first antennæ after the first two joints has the filament-bearing joints separated from two to two, not three to three. These differences may well be attributed to an earlier stage in the development, but if so, the last of them would throw doubt on the importance which has been attributed to these intervals in the flagellum of various specimens. In Dana's *Iphimedia simplex* (from Hermite Island), which evidently belongs to this family, the first two filament-bearing joints are the third and sixth, but the following are the eleventh, sixteenth, and so on for each successive fifth joint.

Locality. Stanley Harbour, among seaweed at low water of spring tide.

Gen. ATYLOIDES Stebbing.

1888. *Atyloides* (part) Stebbing, Rep. Voy. 'Challenger,' vol. xxix. p. 913.
 1906. " Stebbing, Das Tierreich, vol. xxi. pp. 356, 362.
 1909. " Chilton, Subantarct. Is. New Zealand, p. 627.
 1912. " Chilton, Tr. Roy. Soc. Edinb. vol. xlviii, pt. 2. p. 496.

Chilton, in 1909, inclines to identify this genus with *Paramæra*

Miers, 1875, but in 1912 he still retains it, and endows it with a new species, *A. calceolatus*.

ATYLOIDES MAGELLANICUS (Stebbing).

1888. *Atylopsis magellanicus* Stebbing, Rep. Voy. 'Challenger,' vol. xxix. p. 925, pl. 79.
 1906. *Pontogeneia magellanica* Stebbing, Das Tierreich, vol. xxi. p. 360.
 1906. " " Chevreux, Exp. Antarct. française, Amph. p. 64, figs. 37-39.
 1907. " " Walker, Nat. Antarct. Exp. vol. iii. p. 33, pl. 12. fig. 20.
 1909. *Atyloides magellanica* Chilton, Subantarct. Is. of N. Zealand, p. 627.
 1912. " " Chilton, Tr. R. Soc. Edinb. vol. xlviii. p. 496, pl. 1. fig. 18.
 1913. " *magellanicus* Chevreux, Deuxième Exp. Antarct. française, Amph. p. 178.

The transference of this well-distributed species from genus to genus is at least some testimony that the genera concerned belong to a single family. There is general agreement as to the variability of the telson, to which Mr. Vallentin's collection bears further witness.

Locality. Whales Bay, May 17, 1910.

Gen. PARAMÆRA Miers.

1875. *Paramæra* Miers, Ann. Nat. Hist. ser. 4, vol. xvi. p. 75.
 1906. " Stebbing, Das Tierreich, vol. xxi. p. 363.
 1912. " Chilton, Tr. R. Soc. Edinb. vol. xlviii. p. 498.

PARAMÆRA AUSTRINUS (Bate).

1862. *Atylus austrinus* Bate, Catal. Amph. Brit. Mus. p. 137, pl. 26. fig. 4.
 1906. *Paramæra austrina* Stebbing, Das Tierreich, vol. xxi. p. 363.
 1909. " " Chilton, Subantarct. Is. of N. Zealand, p. 625.
 1912. " " Chilton, Tr. R. Soc. Edinb. vol. xlviii. p. 498.

Among the specimens which I refer to this species, one had calceoli on fourteen consecutive joints of the flagellum in one of the first antennæ, while in the other the calceoli were only on alternate joints. In another specimen, calceoli were present on alternate joints of both members of the second pair of antennæ, while on the one remaining member of the first they were, if present, very inconspicuous.

Locality. Low water at top of Roy Cove creek, Aug. 1, 1910.

Fam. GAMMARIDÆ.

1814. *Gammaridæ* Leach, Edinb. Encycl. vol. vii. p. 432.

Gen. MELITA Leach.

1813. *Melita* Leach, Edinb. Encycl. vol. vii. p. 403.

1906. „ Stebbing, Das Tierreich, vol. xxi. pp. 366, 421, 732.

MELITA INÆQUISTYLIS Dana.

1852. *Amphitoë (Melita) inæquistylis* (♀) and *A. (M.) tenuicornis* (♂) Dana, P. Amer. Ac. vol. ii. pp. 214, 215.

1906. *Melita inæquistylis* Stebbing, Das Tierreich, vol. xxi. pp. 429, 732.

1909. „ „ Chilton, Subantarect. Is. of N. Zealand, p. 630.

This species has been rediscussed by Dr. Chilton, who unites with it *Melita zeylanica* Stebbing, 1904, from Ceylon. Mr. Valentin procured a male specimen at low water in Rapid Point, Jan. 20, 1911.

Fam. DEXAMINIDÆ.

1888. *Dexaminidæ* Stebbing, Rep. Voy. 'Challenger,' vol. xxix. p. 573.

Gen. PARADEXAMINE Stebbing.

1899. *Paradexamine*, Stebbing, Ann. Nat. Hist. ser. 7, vol. iv. p. 210.

1906. „ Chevreux, Exp. Antarct. française, Amphip. p. 88.

1909. „ Chilton, Subantarect. Is. of New Zealand, p. 632.

1910. „ Stebbing, Mem. Australian Mus. vol. iv. p. 602.

1912. „ Chilton, Tr. R. Soc. Edinb. vol. xlviii. pt. 2, p. 501.

1913. „ Chevreux, Deuxième Exp. Antarct. française, Amphip. p. 181.

Professor Chilton proposes to make Chevreux's *P. fissicauda* a synonym of Thomson's *P. pacificus*, although in the latter species the telson is not divided to the base as it is in the former. In 1913 Chevreux observes that his *P. fissicauda* is separated from all the other known forms of the family Dexaminidæ by the second maxillæ, the inner plate of which carries a series of spines on the inner margin.

PARADEXAMINE NANUS Stebbing.

Abstract P. Z. S. 1914, p. 30. (April 28.)

In point of size this species is comparable with *P. flindersi*, from which it is distinguished by the differently-shaped telson and by the greater length of the palp of the maxillipeds. The

body is much less conspicuously dentate than in any other described species of the genus, having a medio-dorsal tooth extended backwards only on the second, third, and fourth pleon segments, this tooth being flanked on the third segment by a very small pair of additional teeth, which may be present also on the second segment but were not perceived. The mouth-organs, both gnathopods, uropods, and telson, are in close agreement with those described and figured by Chevreux for *P. fissicauda*, 15 mm. in length. In the first maxillæ, however, there is only one seta on the narrowly oval inner plate, and few setæ on the single-jointed palp. The inner margin of the inner plate of the second maxillæ could not be made out. The fifth joint in the first gnathopods is not longer than the sixth, but in the other species the difference in length appears to be very slight. In the fourth pereopods the second joint has a convex hind margin, not a sinuous one as in the species compared. The telson does not reach the end of the third uropods, and each of its long narrow lobes has three or four spines along its outer margin with two unequal spinules at the apex. The flagellum of the first antennæ is composed of fourteen joints, that of the second is more slender with nine joints; in both pairs the joints in general being considerably longer than broad. Each of the two specimens measured 2.5 mm. The one dissected contained numerous eggs, and, whatever allowance is made for variability, I think it would be scarcely reasonable to regard this matron, a tenth of an inch long, as belonging to the same species as a congener over thirty times her bulk.

Locality. Stanley Harbour, in seaweed at low water of spring tide.

Fam. TALITRIDÆ.

1906. *Talitridæ* Stebbing, Das Tierreich, vol. xxi. pp. 8, 523, 735.

1913. ,, G. M. Thomson, Tr. N. Zealand Inst. vol. xlv.
p. 243.

Thomson is "inclined to reduce *Talitrus*, *Talitroides*, *Orchestoidea*, *Talorchestia*, and *Parorchestia* to *Orchestia*." But to play the part of Saturn swallowing his children, he should have chosen *Talitrus* in preference to *Orchestia*. Calman in 1912 agrees with him in questioning the independence of *Talitroides*.

Gen. TALORCHESTIA Dana.

1852. *Talorchestia* Dana, Amer. J. Sci. ser. 2, vol. xiv. p. 310.

1906. ,, Stebbing, Das Tierreich, vol. xxi. p. 543.

1907. ,, Chevreux, Mém. Soc. Zool. France, vol. xx.
p. 495.

TALORCHESTIA SCUTIGERULUS (Dana).

1853-5. *Orchestia scutigerula* Dana, U.S. Expl. Exp. vol. xiii.
p. 863, pl. 58. fig. 2.

1862. ,, ,, Bate, Catal. Amph. Brit. Mus.
p. 26, pl. 4. fig. 7.

1906. *Talorchestia scutigera* Stebbing, Das Tierreich, vol. xxi.
p. 544.
1912. " " Chilton, Tr. Roy. Soc. Edinb.
vol. xlviii. p. 508.

Mr. Vallentin reports this species as very common along the shore at Stanley Harbour, Nov. 20, 1898, and he obtained numbers of smaller specimens from cast up *Macrocystis* on March 21, 1902. One of the largest of these latter measured 13.5 mm. in length, and is in good correspondence with Dana's figure from a Tierra del Fuego specimen. But a larger specimen from Mr. Vallentin's earlier find measured 15 mm., and agrees with Bate's figure, showing the shield at the back of the second joint of the fifth peræopod rising above the animal's back, over which the two bucklers meet. The difference in appearance between the two forms is very considerable, but further comparison shows that it is due to the maturing of the single feature to which it is confined.

Gen. *HYALELLA* S. I. Smith.

1874. *Hyalella* S. I. Smith, Rep. U.S. Fish Comm. vol. ii. p. 645.
1906. " Stebbing, Das Tierreich, vol. xxi. p. 574.
1907. " Weckel, Pr. U.S. Mus. vol. xxxii. p. 54.
1906. " Chevreux, Lacs des hauts plat. d'Amér. du Sud,
p. 1 (extrait, 1907).
1910. " Weckel, Pr. U.S. Mus. vol. xxxviii. p. 623.
1911. " Ortmann, Princeton Univ. Exp. Patagonia, vol. iii.
p. 650.

HYALELLA PATAGONICUS (Cunningham) Ortmann.

1871. *Allorchestes patagonicus* Cunningham, Tr. Linn. Soc.
London, vol. xvii. p. 498, pl. 59. fig. 4.
1888. *Hyalella patagonicus* Stebbing, Rep. Voy. 'Challenger,'
vol. xxix. p. 404.
1911. *Hyalella patagonica* Ortmann, Princeton Univ. Exp.
Patagonia, vol. iii. p. 650, pl. 48. fig. 3 a-h.

If the above identification could be proved to be erroneous by comparison with Cunningham's original specimen, a change in the recent specific name would become necessary on the ground of preoccupation. As it stands the species has been amply described as new by Dr. Ortmann, who also mentions its near relationship to other species of the genus. In our specimens the sixth joint of the fifth peræopod is relatively longer than in Ortmann's figure, and the third uropods agree not with his figure, but with his text. Mr. Vallentin reports the "colour when alive very dark brown, almost black."

Localities. "In sand ground near old house, Port North, 10 Aug., 1910." Along with it were numerous specimens of the little Copepod *Boeckella michaelsoni* (Mrázek), of which Dr. Thomas Scott, F.L.S., reports in the Ann. Nat. Hist. ser. 8, vol. viii. p. 3, 1914, "This species occurred in at least eight gatherings"

(of Mr. Vallentin's collection). The *Hyalella* was also "found in a freshwater stream some miles distant from Stanley," where "this species appeared to be fairly common."

Fam. AORIDÆ.

1899. *Aoridæ* Stebbing, Ann. Nat. Hist. ser. 7, vol. iv. p. 211.

Gen. LEMBOS Bate.

1857. *Lembos* Bate, Ann. Nat. Hist. ser. 2, vol. xix. p. 142.

1906. „ Stebbing, Das Tierreich, vol. xxi. pp. 594, 737.

1909. „ Walker, Tr. Linn. Soc. London, vol. xii. p. 337.

1909. „ Chilton, Subantarctic Is. of N. Zealand, p. 646.

LEMBOS FUEGIENSIS (Dana). (Pl. IX.)

1853-55. *Gammarus fuegiensis* Dana, U.S. Expl. Exp. vol. xiii. p. 954, pl. 65. fig. 8 a-h.

1862. *Mæra fuegiensis* and *M. fuegeensis* Bate, Catal. Amph. Brit. Mus. p. 194, pl. 35. fig. 4.

1906. *Lembos fuegiensis* Stebbing, Das Tierreich, vol. xxi. p. 600.

1909. *Lembos kergueleni* Walker, Tr. Linn. Soc. London, vol. xii. p. 337, pl. 43. fig. 6.

1909. (?) *L. kergueleni* Chilton, Subantarctic Is. of N. Zealand, p. 646, text-figs. 12 a, b.

In 1906 this species remained obscure, Dana having described and figured it only in the female sex. While naming it *fuegiensis* as if it belonged to Tierra del Fuego, he assigned it to the "Feejee" Islands. Now that Mr. Vallentin has obtained a male and a female specimen together from the Falkland Islands, I feel pretty sure that the "Feejee" Islands was not the original locality, but assigned through some lapse of memory as the rendering of *fuegiensis*, yet the distribution must be extensive, since Walker records the species from the Indian Ocean.

The male differs from *Lembos kergueleni* (Stebbing), taken from a considerable depth at Kerguelen Island, by the hand of the first gnathopod, which has a differently sculptured palm, and also by the second joint of the second gnathopod, which is here not a broadly expanded oval as in the other species. The expansion, however, is also absent from the specimen which Chilton, in 1909, identified with *L. kergueleni*, but that identification seems to me very doubtful, since the male here figured is apparently adult, to judge by the antennæ and gnathopods, and the size slightly larger than that of the accompanying ovigerous female. It scarcely needs observing that the expansion of the second joint of the second gnathopod, though it occurs also in *Eurystheus exsertipes*, is a very unusual feature. In the present species the second joint is not expanded either in the gnathopods or in any of the peræopods.

The eyes are small and round. The first antennæ have a long peduncle and longer flagellum, first joint of peduncle rather

shorter than the second, which is four times as long as the third; flagellum of 30 joints in the male, 26 in the female, accessory of 6 and 5 joints respectively. Second antennæ with long peduncle, last joint a little longer than the penultimate, a little shorter than the 13-jointed flagellum.

The mouth-organs and pæreopods do not seem to offer characters of value specifically. The first gnathopods of the male are in near agreement with the figure and description given by Mr. A. O. Walker in 1909. My figure was drawn before I had realized the necessity of comparing it with Mr. Walker's. His description is, "hand three times as long as wrist, hind margin longer than palm, which is defined by a blunt, everted tooth, setose on the side; behind this is a large sinus followed by a prominent flat-topped tooth; dactylus swollen near the middle." In my specimen the front margin is rather longer than that in Mr. Walker's drawing and the blunt tooth is not everted, but such differences may well be individual. In regard to the first gnathopods of the female, with their slightly excavated palm, Mr. Walker's figure agrees fairly well with Dana's and with mine, which also was drawn before comparison with Dana's species had occurred to me as desirable. Mr. Walker speaks of the fourth and fifth pæreopods as having "the 2nd joints wider than in the 'Challenger' specimen" (of *L. kergueleni*). That would not agree with the form here in question or with Dana's figure.

In the uropods Dana notices the long spines apical to the peduncles of the first and second pairs. In the first pair the rami differ slightly from Dana's figure in being a little longer instead of a little shorter than the peduncle, but on Dana's plate they are drawn *in situ*, which is unfavourable to minute accuracy of measurement.

The telson is considerably longer than broad, a fact that would scarcely be suspected from a lateral view. Length of male in much curved position 7 mm., at full stretch probably 10 mm. or more; female (with numerous eggs) nearly as long.

Locality. Falklands, from roots of *Macrocystis* at 2-4 fathoms, Jan. 14, 1902.

Fam. PHOTIDÆ.

1872-76. *Photidæ* Boeck, Skand, Arkt. Amphip. vol. i. p. 74, vol. ii. p. 546.

1906. „ Stebbing, Das Tierreich, vol. xxi. p. 602.

Gen. HAPLOCHEIRA Haswell.

1879. *Haplocheira* Haswell, P. Linn. Soc. N.S. Wales, vol. iv. p. 273.

HAPLOCHEIRA BARBIMANUS (G. M. Thomson).

1879. *Gammarus barbimanus* Thomson, Tr. N. Zealand Inst. vol. xi. p. 241, pl. 10 d. fig. 1.

1879. *Haplocheira typica* Haswell, P. Linn. Soc. N.S. Wales, vol. iv. p. 273, pl. 11. fig. 2.
 1906. *H. barbimana* Stebbing, Das Tierreich, vol. xxi. p. 609.
 1907. „ Walker, National Antart. Exp. vol. iii., Amphip. p. 35.
 1912. „ Chilton, Tr. R. Soc. Edinb. vol. xlviii. p. 510.

Mr. Vallentin obtained a specimen at Stanley in seaweed at low water of a spring tide, and others from a sponge on a schooner.

Fam. AMPITHOIDÆ.

1899. *Ampithoidæ* Stebbing, Ann. Nat. Hist. ser. 7, vol. iv. p. 211.

Gen. AMPITHOE Leach.

- 1813-14. *Ampithoe* Leach, Edinb. Encycl. vol. vii. pp. 403, 432.
 1906. *Ampithoe* Stebbing, Das Tierreich, vol. xxi. p. 631.

AMPITHOE BREVIPES (Dana).

1852. *Amphithoe brevipes* Dana, P. Amer. Acad. vol. ii. p. 216.
 1853-5. „ „ Dana, U.S. Expl. Exp. vol. xiii. p. 941,
 pl. 64. figs. 5 *a-i*, *k-n*, and *l*, *md*, *m*¹⁻³.
 1906. *Ampithoe brevipes* Stebbing, Das Tierreich, vol. xxi. p. 637.

A female specimen 20 mm. in length, carrying numerous small eggs, agrees remarkably well with Dana's figures and description, except that neither the first nor the second uropods have the rami so equal in length as his figure represents, nor is the more slender (and longer) ramus so devoid of spines. The glandular second joint in the first and second pereopods, so important for nest-building, is, as Dana notes, conspicuously swollen.

Locality. Found "with their 'nests' made on a frond of *Macrocystis pyrifera*, 1 foot from the surface," Nov. 24, 1898.

Fam. JASSIDÆ.

1906. *Jassidæ* Stebbing, Das Tierreich, vol. xxi. pp. 8, 647, 739.

Gen. JASSA Leach.

1814. *Jassa* Leach, Edinb. Encycl. vol. vii. p. 433.
 1906. „ Stebbing, Das Tierreich, vol. xxi. pp. 652, 739.
 1913. „ Chevreux, Deuxième Exp. Antart. française, Amphip. p. 181.

JASSA FALCATUS (Montagu).

1808. *Cancer (Gammarus) falcatus* Montagu, Trans. Linn. Soc. London, vol. ix. p. 100, pl. 5. fig. 2.
 1906. *Jassa falcata* Stebbing, Das Tierreich, vol. xxi. p. 656.
 1911. „ „ Sexton, J. Mar. Biol. Assoc. vol. ix. p. 212.
 1912. „ „ Chilton, Tr. R. Soc. Edinb. vol. xlviii. p. 511.

Under Montagu's specific name Dr. Chilton groups a great

variety of synonyms, including Pfeffer's *Podocerus ingens*, which attains a length of 26 mm., Walker's *Hemijassa goniamera* and *Jassa wandeli* Chevreux. In 1913 Chevreux points out that, though the adult male of his species proves to have second gnathopods very similar to those of *J. falcatus*, it is nevertheless distinguished among other things by a more elongate carpus of the first gnathopods, the comparatively narrow second joint of the fourth and fifth pereopods in which the hind margin is almost straight, and by the less acute apex of the telson. In all these respects it is distinct from the little specimen here recorded, which has a length of only 3 mm.; the antennæ are well furnished with long setæ, and the second joint in the third, fourth, and fifth pereopods has a very decidedly convex margin.

Locality. Stanley Harbour, among seaweed at low water of spring tide.

Another specimen in the collection, which I should be inclined to identify with *Jassa ingens* (Pfeffer), measures 8.5 mm. in length. It has the second joint of the very elongate second gnathopod much curved, and the tooth of the large sixth joint irregular in shape, as described and figured by Pfeffer.

Fam. COROPHIIDÆ.

1888. *Corophiidae* Stebbing, Rep. Voy. 'Challenger,' vol. xxix. p. 1154.

1906. " Stebbing, Das Tierreich, vol. xxi. pp. 8, 662, 739.

Gen. COROPHIUM Latreille.

1806. *Corophium* Latreille, Gen. Crust. Ins. vol. i. p. 58.

1906. " Stebbing, Das Tierreich, vol. xxi. pp. 663, 685, 739.

1908. " Chevreux, Bull. Soc. Zool. France, vol. xxxiii. p. 69.

COROPHIUM CYLINDRICUS (Say).

1818. *Podocerus cylindricus* Say, J. Ac. Philad. vol. i. p. 387.

1873. *Corophium cylindricum* Smith & Verill, Rep. U.S. Fish Comm. vol. i. p. 370.

1905. " " Holmes, Bull. U.S. Bureau Fish. vol. xxiv. p. 521, text-figs.

1905. " " Paulmier, Bull. New York Mus., Bull. 91, Zool. 12, p. 167, fig. 37.

1906. " " Stebbing, Das Tierreich, vol. xxi. pp. 692, 740.

The figures and description of the female supplied by Dr. S. J. Holmes leave no doubt that Mr. Vallentin's specimens belong to this species. Holmes gives the length as 3-4 mm. Paulmier gives it as 5 mm., probably with reference to a male specimen which he figures in full. The Falkland Island specimens, collected during low water of spring tides, measure only 3 mm. It is

possible that Dana's young *Corophium* (?) *quadriceps*, 2 mm. long, from Rio Janeiro, may be a synonym, and probable that *C. contractum* Stimpson, 1855, from Japan, later identified by G. M. Thomson in New Zealand waters, may likewise be another name for Say's widely distributed species.

Fam. PODOCERIDÆ.

1906. *Podoceridæ* Stebbing, Das Tierreich, vol. xxi. pp. 8, 694, 741.

1910. „ Stebbing, Mem. Austral. Mus. vol. iv. pp. 622, 650.

Gen. PODOCERUS Leach.

1814. *Podocerus*, Leach, Edinb. Encycl. vol. vii. p. 433.

1906. „ Stebbing, Das Tierreich, vol. xxi. pp. 700, 741.

PODOCERUS BRASILIENSIS (Dana).

1853 & 1855. *Platophium brasiliense* Dana, U.S. Expl. Exp. vol. xiii. p. 838, pl. 55. figs. 9 a-l.

1906. *Podocerus brasiliensis* Stebbing, Das Tierreich, vol. xxi. p. 704.

In this species Dana's figure shows the fifth joint of the second gnathopod in the male as quite distinct from the long joint which follows. In the example from the Falklands, as in one from the West Indies, this fifth joint is scarcely visible, in this respect agreeing with *Podocerus mangarevæ* Chevreux, 1907, of which the author says that the wrist is not clearly distinct from the hand.

It is possible that the species is not a true member of the fauna of the Falkland Islands, since Mr. Vallentin records his specimens as obtained from mud on a hulk sunk in Stanley Harbour.

Tribe CYAMIDEA.

1852. *Caprellidea* Dana, Amer. Journ. Sci. ser. 2, vol. xiv. p. 307.

1906. „ Stebbing, Das Tierreich, vol. xxi. p. 4.

1910. *Cyamidea* Stebbing, Ann. S. Afr. Mus. vol. vi. p. 464.

Fam. CAPRELLIDÆ.

1847. *Caprellidæ* White, List of Crust. Brit. Mus. p. 91.

1910. „ Stebbing, Ann. S. Afr. Mus. vol. vi. p. 464
(with synonymy).

Gen. CAPRELLA Lamarek.

1801. *Caprella* Lamarek, Syst. Anim. sans Vertèbres, p. 165.

CAPRELLA PENANTIS Leach.

1813. *Caprella penantis* Leach, Edinb. Encycl. vol. vii. p. 404.

1816. *C. acutifrons* Latreille, Nouveau Dict. d'Hist. Nat. vol. v. p. 433.

1843. *C. dilatata* Krøyer, Naturh. Tidsskr. vol. iv. p. 585, pl. 8. figs. 1-9.

1871. *C. dilatata* Cunningham, Tr. Linn. Soc. London, vol. xxvii. p. 478.

1890. *C. acutifrons* Mayer, F. & Fl. Neapel, vol. xvii. pp. 50, 51.

1910. *C. penantis* Stebbing, Ann. S. Afr. Mus. vol. vi. p. 465.

Mr. Vallentin obtained this species from *Macrocystis* after a gale on the 16th of Jan., 1910, and on other occasions from hydroids and fronds of *Macrocystis* at the mouth of Roy Cove.

Tribe PHRONIMIDEA.

1890. *Hyperiidea* Sars, Crustacea of Norway, vol. i. p. 5.

1906. „ Stebbing, Das Tierreich, vol. xxi. p. 4.

1910. *Phronimidea* Stebbing, Ann. S. Afr. Mus. vol. vi. p. 473.

Fam. HYPERIIDÆ.

1889. *Hyperiidæ* Bovallius, K. Svenska Vet.-Ak. Handl. vol. xx. no. 7, p. 74.

Gen. HYPERIA Latreille.

1823. *Hyperia* Latreille, in Desmarest, Dict. Sci. Nat. vol. xxviii. p. 347.

HYPERIA GAUDICHAUDII Milne-Edwards.

1840. *Hyperia gaudichaudii* Milne-Edwards, Hist. Nat. Crustacés, vol. iii. p. 77.

1888. „ „ Stebbing, Rep. Voy. 'Challenger,' vol. xxix. p. 1394, pl. 169.

1903. *H. gaudichaudi* Walker, J. Linn. Soc. London, vol. xxix. p. 40.

1907. „ „ Walker, Nat. Antaret. Exp. vol. iii., Amphip. p. 7.

The specimens were "removed from large Beroe," March 11, 1910.

LEPTOSTRACA.

1888. *Leptostraka* Claus, Arbeit. Zool. Inst. Wien, vol. viii, pt. 1, p. 5.

Claus here supplies a full discussion of his own and other views on the systematic position of this subclass, insisting strongly on the points of agreement with the Malacostraca.

Fam. NEBALIIDÆ.

1850. *Nebaliadæ* Baird, Brit. Entomostraca, Ray Soc., p. 31.

1896. *Nebaliidæ* Sars, Fauna Norvegiæ, vol. i. p. 6.

1900. „ Stebbing, Willey's Zool. Results, Part 5, p. 659.

1904. 'Die Leptostraken' Thiele, Ergeb. der deutschen Tiefsee-Exp. vol. viii.

1905. „ „ Thiele, Deutsche Südpol. Exp. vol. ix., Zool. i. p. 61.

In the interests of carcinological phylogeny attention may

here be called to Mr. C. D. Walcott's remarkable account of Middle Cambrian Crustacea (Smithson. Misc. Coll. vol. lvii. no. 6, 1912), in which he rather confusingly refers to the present group as Phyllocarida, Nebaliacea, and Leptostraca, without clearly indicating that he uses them as synonyms.

Gen. NEBALIA Leach.

1814. *Nebalia* Leach, Zool. Miscellany, vol. i. p. 99.
 1888. „ Claus, Arbeit. Zool. Inst. Wien, vol. viii. pt. 1, p. 122.
 1909. „ Chilton, Subantarctic Is. of N. Zealand, p. 669.

Other references coincide with those given above. It may be noticed that Leach assigned his genus to the subclass Malacostraca.

NEBALIA BIPES (O. Fabricius).

1780. *Cancer bipes* O. Fabricius, Fauna Groenlandica, no. 223.
 1888. *Nebalia bipes*, var. *chilensis* Claus, Arbeit. Zool. Inst. Wien, vol. viii. pt. 1, pp. 127, 132.
 1904. *N. b. chilensis* Thiele, Ergeb. der deutschen Tiefsee-Exp. vol. viii. p. 13, pl. 4. f. 73.
 1905. *N. bipes* Thiele, Deutsch. Südpol. Exp. vol. ix., Zool. i. p. 67.

A dissected specimen, apparently a young male, shows a rostrum with the proportions of length to breadth, 16:6, or slightly less than 6. The eyes have a little lateral projection. The first antennæ agree with those which Dr. Thiele describes and figures for his *Nebalia longicornis magellanica*. He allows that, on the whole, the southern *N. longicornis* Thomson differs little from the northern *N. bipes*. It seems to me very doubtful whether the specific distinction can be maintained. In one of Mr. Vallentin's specimens the second antennæ nearly reach the end of the caudal rami.

Locality. Whales Bay, May 17, 1910.

THYROSTRACA.

1893. *Thyrostraca* Stebbing, History of Crustacea, Internat. Sci. Ser. vol. lxxiv. pp. 6, 11, 31.
 1902. „ Stebbing, Encycl. Brit. ed. 10, suppl. vol. xxxiii. (9) p. 319.

Fam. LEPADIDÆ.

1851. *Lepadidæ* Darwin, Monogr. Cirrip., Ray Soc., vol. i. 1851.

Gen. LEFAS Linn.

1758. *Lepas* Linn., Syst. Nat. ed. 10, p. 667.

LEPAS AUSTRALIS Darwin.

1851. *Lepas australis* Darwin, Monogr. Cirrip., Ray Soc., vol. i.
p. 89, pl. 1. fig. 5.

This species was taken in King George's Sound, on the shore after a gale, Sept. 15, 1910.

Fam. BALANIDÆ.

1854. *Balanida* Darwin, Monogr. Cirrip., Ray Soc., vol. ii. p. 33.

Gen. ELMINIUS Leach.

1825. *Elminius* Leach, Zoological Journal, vol. ii.

ELMINIUS KINGII Gray.

1831. *Elminius kingii* Gray, Zoological Miscellany, p. 13.

1854. " " Darwin, Monogr. Cirrip., Ray Soc., vol. ii.
p. 348, pl. 11. figs. 6 a-6 e.

1911. *E. kingi* Ortmann, Princeton Univ. Exp. Patagonia, p. 637.

Points by which I have verified this species are the scutum without an adductor ridge, the labrum deeply notched, with five little teeth on each side, the mandible with four or five teeth. Darwin speaks of the first pair of cirri as having "one ramus nearly twice as long as the other." In the specimens dissected, the difference was not so considerable. The penis was stout except near the apex in one specimen, the thin part considerably prolonged in the other.

Mr. Vallentin's specimens were taken at low water of a spring tide affixed to *Mytilus edulis* in Stanley Harbour. He speaks of them as scarce.

EXPLANATION OF THE PLATES.

PLATE I.

Tanaïs ohlini Stebbing.

n.s. Line indicating natural size of female specimen figured below.

C. Dorsal view of head and first peræon segment, with first antennæ and first gnathopods; frontal line of head conjectural.

Pl., urp. Dorsal view of pleon, with left uropod.

oc., a.s., a.i. Eye, first and second antennæ.

m., mx. 1, maxp. Mandible, first maxilla, maxillipeds.

gn. 1, gn. 2, prp. 1, prp. 5. First and second gnathopods, first and fifth peræopods.

urp. Right uropod.

All the separate parts are magnified to a uniform scale, except the terminal joint of the fifth peræopod, which is further given in higher magnification.

PLATE II.

Eosphaeroma calcareus (Dana).

n.s. Lines indicating natural size of male specimen figured below in dorsal aspect.

C.V. Ventral view of cephalon with side-plates of first peræon segment, to give an idea of the epistome and first and second antennæ in position.

plp. 1. The first pleopod, along with the male organs on the last peræon segment.

plp. 2, 3, 4, 5. Second, third, fourth, and fifth pleopods, with apical parts of fourth and fifth more highly magnified.

PLATE III.

Tryphosites chevreuxi Stebbing.

n.s. Line indicating natural size of male specimen figured below.

a.s., a.i. First antenna and part of the second.

gn. 1, gn. 2. First gnathopod with distal portion more highly magnified, and second gnathopod.

prp. 2, 3, 5. Second and third peræopods, the latter without the branchial vesicle; fifth peræopod, with second joint only partially figured for economy of space.

urp. 2, urp. 3, T. Second and third uropods; telson in dorsal view, with higher magnification of the apex of the left division.

The separate parts are enlarged to a uniform scale, with additional enlargements of the first gnathopod and the telson.

PLATE IV.

Pariphimedia normani (Cunningham).

n.s. Line indicating natural size of female specimen figured below.

C. Partial side view of head.

l.s., l.s'. Upper and lower lips.

m., mx. 1, mx. 2. Mandible, first and second maxillæ.

gn. 1, gn. 2. First and second gnathopods.

All the separate parts, except the head, are magnified to a uniform scale. The marsupial plate of the second gnathopod is omitted.

PLATE V.

Pariphimedia normani (Cunningham).

m.xp. Maxillipeds.

prp. 2, 3, 5. Second and third peræopods incomplete, and fifth peræopod.

urp. 1. First uropod, the peduncle incomplete.

urp. 2, urp. 3, T. Dorsal view of second and third uropods, with the telson.

For economy of space the peræopods are given on a lower scale of magnification. The other parts are uniform with those of the preceding Plate.

PLATE VI.

Monoculopsis vallentini Stebbing.

n.s. Line indicating natural size of the specimen figured below. The figure is partly schematic, as prior to dissection details of the crowded overlapping limbs could neither be clearly seen nor satisfactorily represented.

a.3., a.i. First and second antennæ.

l.s., mx. 1, mx. 2. Upper lip, first and second maxillæ.

gn. 1, gn. 2. First and second gnathopods.

PLATE VII.

Monoculopsis vallentini Stebbing.

m., l.i. Mandible and lower lip.

prp. 2, 3, 4, 5. Second, third, fourth, and fifth peræopods. The branchial vesicle and marsupial plate of the second peræopod are omitted.

plp. A pleopod.

urp. 1, 2, 3, 3. The right first uropod, the left second uropod, the pair of third uropods, with the peduncle only of the left first and the right second. The telson appears as if it were attached to the fifth segment of the pleon, but is really attached high up on the sixth which it overlaps.

In this and the preceding Plate the mouth-organs are more highly magnified than the other parts, but each set is on a uniform scale.

PLATE VIII.

Bovallia regis Stebbing.

n.s. Line indicating natural size of specimen figured below in curved position, some of the limbs omitted to prevent confusion.

a.s. First antenna.

l.i., m., m. Lower lip, the two mandibles.

gn. 1, gn. 2, prp. 5. First and second gnathopods, and part of fifth pereopod.

urp. 1, urp. 2. First and second uropods.

T., urp. 3. Telson and third uropod.

The mouth-organs are more highly magnified than the other parts. The limbs, uropods and telson are on a uniform scale, but the limbs and mouth-organs are not from the specimen figured as a whole, though of one approximately of the same size.

PLATE IX.

Lembos fuegiensis (Dana).

n.s. ♂. Line indicating natural size of male specimen figured below in lateral view.

a.s., a.i. First and part of second antennæ.

l.i. ♀. Lower lip of female.

gn. 1, gn. 2, gn. 1 ♀, gn. 2 ♀. First and second gnathopods of the male and of the female.

urp. 1, urp. 2. First and second uropods.

urp. 3, T. Sixth pleon segment with telson and third uropods attached, in dorsal view.

All the parts are drawn to a uniform scale, and all are from the male specimen, except those with the sign ♀.